

Message

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**From:** Lindstrom, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=04BF7CF26AA44CE29763FBC1C1B2338E-LINDSTROM, ANDREW]  
**Sent:** 5/2/2016 5:59:27 PM  
**To:** Azzam, Nidal [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c697ee439a44482eb3d86873ba792177-Azzam, Nidal]  
**Subject:** FW: PFAS study discussion  
**Attachments:** Strynar et al. 2015.pdf; Wang et al., 2013.pdf; Krafft Riess 2015 PFAS Review of environmental challenges.pdf

Nidal,

It was nice to talk with you.

Here is my Director's contact information:

Timothy J. Buckley, PhD  
Director of the Exposure Methods & Measurements Division  
National Exposure Research Laboratory  
109 TW Alexander Drive  
Research Triangle Park, NC 27711

Please see the discussion below about how we are handling this request.

I've also attached a copy of our latest paper outlining some of the new PFAS chemistries that we are finding in NC.

Also, two other papers about PFAS and their replacements.

Take care,

Andy

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**From:** Biales, Adam  
**Sent:** Tuesday, April 26, 2016 11:48 AM  
**To:** Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>  
**Subject:** Fwd: PFAS study discussion

Here we go

Sent from my iPhone

Begin forwarded message:

**From:** "Buckley, Timothy" <Buckley.Timothy@epa.gov>  
**Date:** April 26, 2016 at 11:37:16 AM EDT  
**To:** "Biales, Adam" <Biales.Adam@epa.gov>  
**Cc:** "Behymer, Thomas" <Behymer.Thomas@epa.gov>  
**Subject:** FW: PFAS study discussion

Please let Andy know that this is working its way through upper EPA/ORD management.

Tim

Timothy J. Buckley, PhD

Director of the Exposure Methods & Measurements Division  
National Exposure Research Laboratory  
109 TW Alexander Drive  
Research Triangle Park, NC 27711

Email: [buckley.timothy@epa.gov](mailto:buckley.timothy@epa.gov)

URL: <http://www.epa.gov/heasd/staff/buckley.html>

Phone: (919) 541-2454 (O); FAX: -0239

Ex. 6 Personal Privacy (PP) (b)(1)

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**From:** Orme-Zavaleta, Jennifer

**Sent:** Tuesday, April 26, 2016 11:14 AM

**To:** Buckley, Timothy <[Buckley.Timothy@epa.gov](mailto:Buckley.Timothy@epa.gov)>; Watkins, Tim <[Watkins.Tim@epa.gov](mailto:Watkins.Tim@epa.gov)>

**Cc:** Gillespie, Andrew <[Gillespie.Andrew@epa.gov](mailto:Gillespie.Andrew@epa.gov)>; Guiseppi-Elie, Annette <[Guiseppi-Elie.Annette@epa.gov](mailto:Guiseppi-Elie.Annette@epa.gov)>; Kryak, DavidD <[Kryak.Davidd@epa.gov](mailto:Kryak.Davidd@epa.gov)>

**Subject:** RE: PFAS study discussion

## Ex. 5 Deliberative Process (DP)

Thanks!

Jennifer Orme-Zavaleta, PhD  
Director, National Exposure Research Laboratory  
USEPA Office of Research and Development  
109 TW Alexander Dr MC 305-01  
RTP, NC 27711

Ex. 6 Personal Privacy (PP) (b)(1)

[orme-zavaleta.jennifer@epa.gov](mailto:orme-zavaleta.jennifer@epa.gov)

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**From:** Buckley, Timothy

**Sent:** Monday, April 25, 2016 12:54 PM

**To:** Orme-Zavaleta, Jennifer <[Orme-Zavaleta.Jennifer@epa.gov](mailto:Orme-Zavaleta.Jennifer@epa.gov)>; Watkins, Tim <[Watkins.Tim@epa.gov](mailto:Watkins.Tim@epa.gov)>

**Cc:** Gillespie, Andrew <[Gillespie.Andrew@epa.gov](mailto:Gillespie.Andrew@epa.gov)>; Guiseppi-Elie, Annette <[Guiseppi-Elie.Annette@epa.gov](mailto:Guiseppi-Elie.Annette@epa.gov)>; Kryak, DavidD <[Kryak.Davidd@epa.gov](mailto:Kryak.Davidd@epa.gov)>

**Subject:** FW: PFAS study discussion

It looks like a request for the NJ work is making its way through Region 2 and headed for your desk.

Tim

Timothy J. Buckley, PhD  
Director of the Exposure Methods & Measurements Division  
National Exposure Research Laboratory  
109 TW Alexander Drive  
Research Triangle Park, NC 27711

Email: [buckley.timothy@epa.gov](mailto:buckley.timothy@epa.gov)

URL: <http://www.epa.gov/heasd/staff/buckley.html>

Phone: (919) 541-2454 (O); FAX: -0239

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**From:** Azzam, Nidal  
**Sent:** Monday, April 25, 2016 11:45 AM  
**To:** Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>  
**Cc:** Biales, Adam <[Biales.Adam@epa.gov](mailto:Biales.Adam@epa.gov)>; Buckley, Timothy <[Buckley.Timothy@epa.gov](mailto:Buckley.Timothy@epa.gov)>; Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>; Everett, Adolph <[Everett.Adolph@epa.gov](mailto:Everett.Adolph@epa.gov)>; Iglesias, Ariel <[Iglesias.Ariel@epa.gov](mailto:Iglesias.Ariel@epa.gov)>  
**Subject:** RE: PFAS study discussion

Andy et al,  
I followed up with NJDEP this morning. They will be drafting a letter for their Director's signature this week. The scope of work will be to develop a method to aid in determining the source of contamination around Solvay (chemical signature).

Nidal Azzam,  
Base Program Management Section, Chief  
Hazardous Waste Programs Branch  
Clean Air and Sustainability Division  
USEPA Region 2  
290 Broadway, 22nd Floor  
New York, NY 10007  
212-637-3748 Office  
212-637-4437 Fax



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**From:** Lindstrom, Andrew  
**Sent:** Monday, April 25, 2016 8:24 AM  
**To:** Azzam, Nidal <[Azzam.Nidal@epa.gov](mailto:Azzam.Nidal@epa.gov)>  
**Cc:** Biales, Adam <[Biales.Adam@epa.gov](mailto:Biales.Adam@epa.gov)>; Buckley, Timothy <[Buckley.Timothy@epa.gov](mailto:Buckley.Timothy@epa.gov)>; Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>; Everett, Adolph <[Everett.Adolph@epa.gov](mailto:Everett.Adolph@epa.gov)>; Iglesias, Ariel <[Iglesias.Ariel@epa.gov](mailto:Iglesias.Ariel@epa.gov)>  
**Subject:** RE: PFAS study discussion

Nidal,

Thank you very much for helping with this situation.

Please let us know if we can help in any way Regional PFAS matters.

Thank you,

Andy

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**From:** Azzam, Nidal  
**Sent:** Monday, April 25, 2016 8:19 AM  
**To:** Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>  
**Cc:** Biales, Adam <[Biales.Adam@epa.gov](mailto:Biales.Adam@epa.gov)>; Buckley, Timothy <[Buckley.Timothy@epa.gov](mailto:Buckley.Timothy@epa.gov)>; Strynar,

Mark <Strynar.Mark@epa.gov>; Everett, Adolph <Everett.Adolph@epa.gov>; Iglesias, Ariel  
<Iglesias.Ariel@epa.gov>

**Subject:** RE: PFAS study discussion

Andy,

I am aware of this matter and I have been speaking with both Gloria and Erica from NJDEP. We greatly appreciate NERL's support. In order to get NERL engaged, NJDEP need to submit a letter to us at the Director's level requesting EPA support in lab analyses and indicate the type and extent of support needed. Our division would then submit a letter to NERL's Director requesting as such. I did speak to NJDEP last Friday and did inform them of their need to submit a request letter. I will keep you posted in any future updates.

Nidal Azzam,  
Base Program Management Section, Chief  
Hazardous Waste Programs Branch  
Clean Air and Sustainability Division  
USEPA Region 2  
290 Broadway, 22nd Floor  
New York, NY 10007  
212-637-3748 Office  
212-637-4437 Fax



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**From:** Lindstrom, Andrew

**Sent:** Friday, April 22, 2016 10:56 AM

**To:** Azzam, Nidal <Azzam.Nidal@epa.gov>; O'shea, Marie <OShea.Marie@epa.gov>

**Cc:** Biales, Adam <Biales.Adam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>

**Subject:** FW: PFAS study discussion

Nidal and Marie,

I've left you messages explaining that the New Jersey Department of Environmental Protection would like NERL to help them conduct research to characterize a PFNA contamination issue associated with the Solvay Specialty Polymers plant in West Deptford.

We have a long history of working with the perfluorinated compounds and the folks in New Jersey, and it would be relatively easy for us to conduct the kind of work they are describing in the work outline attached above.

We want to inform you of our potential involvement in this activity and we ask for your review and approval of this proposed work. We also seek your collaborative participation in this research if it is ultimately supported by our managers and all the parties involved.

Please review the attached documentation that describes this potential new project let us know how you think we should proceed.

Thank you very much,

Andy

Andrew B. Lindstrom, Ph.D.  
U.S. Environmental Protection Agency  
National Exposure Research Laboratory  
Mail Drop E205-04  
Research Triangle Park, NC 27711  
Tel: 919-541-0551  
Cell: 919-541-0551  
Email: [lindstrom.andrew@epa.gov](mailto:lindstrom.andrew@epa.gov)

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**From:** Lindstrom, Andrew  
**Sent:** Tuesday, April 12, 2016 3:23 PM  
**To:** Biales, Adam <[Biales.Adam@epa.gov](mailto:Biales.Adam@epa.gov)>; Medina-Vera, Myriam <[Medina-Vera.Myriam@epa.gov](mailto:Medina-Vera.Myriam@epa.gov)>;  
Buckley, Timothy <[Buckley.Timothy@epa.gov](mailto:Buckley.Timothy@epa.gov)>  
**Cc:** Mark Strynar <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>  
**Subject:** FW: PFAS study discussion

All,

Mark and I have been approached by officials from the New Jersey Department of Environmental Protection (NJDEP) to help them with ongoing efforts to characterize PFAS contamination in and around West Deptford.

We have been communicating and collaborating with NJDEP since 2007 after our paper on PFAS on the Cape Fear River was published. Most of this interaction has been relatively informal, but this past fall they asked us to comment on a workplan developed by a major PFAS manufacturer that was intended to characterize contamination associated with their site operations in Gloucester County (the plan and comments are attached above).

The major concern with this site is that PFNA (the C9 carboxylic acid) was emitted for many years and the routes and extent of the contamination remains poorly described. Liquid effluents discharged to the Delaware River were dispersed by the daily tidal movements, and groundwater recharge from the River has led to significant contamination of local aquifers.

NJDEP has since issued a preliminary interim drinking water standard for PFNA of 10 ng/l and they have closed a number of drinking water wells that exceeded this standard.

There is now considerable interest in determining whether airborne emissions from this plant are responsible for any of this contamination. There is historical precedent, as airborne emission were determined to be responsible for the PFOA contamination in and around the DuPont facility in Parkersburg, WV.

NJDEP would like NERL to conduct an analysis of a limited number of soil and water samples to help determine if drinking water contamination is related to airborne emissions from this plant (plan attached above). We would work with NJDEP to publish these results as a peer-reviewed journal article.

We would like to meet to discuss this possibility. Please let us know how to proceed.

Thank you very much,

Andy

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**From:** Goodrow, Sandra [<mailto:Sandra.Goodrow@dep.nj.gov>]  
**Sent:** Monday, April 11, 2016 9:01 AM  
**To:** Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>; Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>  
**Cc:** Romanell, Marc <[Marc.Romanell@dep.nj.gov](mailto:Marc.Romanell@dep.nj.gov)>; Bergman, Erica <[Erica.Bergman@dep.nj.gov](mailto:Erica.Bergman@dep.nj.gov)>; Barskey, David <[David.Barskey@dep.nj.gov](mailto:David.Barskey@dep.nj.gov)>  
**Subject:** PFAS study discussion

Mark and Andy,

We put a few thoughts together to start the discussion on tomorrow's conference call (from 1-2). Take a look at the attached document and see what you think.

Let me know if you will be calling from one phone line (and I'll give you the one number of our conference call phone) or if you will be calling if from two numbers (and I will give you our conference call number and access code.

Thanks!

*Sandra M. Goodrow, Ph.D.*  
Research Scientist I  
NJ Dept. of Environmental Protection  
Division of Science, Research, and Environmental Health  
428 E. State St., 1<sup>st</sup> Floor  
Mail Code 428-01, P.O. Box 420  
Trenton, NJ 08625-0420  
(609) 984-9556  
[Sandra.Goodrow@dep.nj.gov](mailto:Sandra.Goodrow@dep.nj.gov)

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